

ISOTOPE AIDED EVALUATION OF COMMUNITY PROGRAMME (SEN/7/003) E4 New MODEL PROJECT

CORE FINANCING

YEAR	Experts		Group Activity	Equipment	Fellowships		Scientific Visits		Group Training	Sub-Contracts	Misc. Comp.	TOTAL
	m/d	US \$	US \$	US \$	m/d	US \$	m/d	US \$	US \$	US \$	US \$	US \$
1999	2/21	39,690	0	100,000	6/0	20,700	0/0	0	0	8,000	0	168,390
2000	1/0	15,450	0	70,000	4/0	14,400	0/0	0	0	0	0	99,850

First Year Approved: 1999

OBJECTIVES: To use isotope techniques to evaluate the nutritional impact of a community nutrition programme for mothers and children with the aim of improving the supplementation strategy.

BACKGROUND: Over the past year, the prevalence of malnutrition in Senegal has risen to 12% for children aged 6-26 months, and to 20% for children under 5 years. It is widespread and characterized by deficient quantity, quality and diversity of food. A series of measures aiming at protecting the most vulnerable groups (women and children) was undertaken by national authorities and an externally funded high priority community nutrition project (CNP) was launched under the supervision of the Presidency of the Republic. The CNP consists of three parts: (1) nutrition: food supplementation for pregnant and lactating women and their infants, nutrition education, and a follow-up study of child growth; (2) provision of safe water supply; and (3) stable food supply to households. The

CNP was launched in 1994, with US \$28 million contributed by the World Bank, the World Food Programme and the German Kreditanstalt für Wiederaufbau, and US \$1.6 million by the Government. The CNP is executed by the Public Works and Employment Agency (AGETIP), which is an autonomous semi-private agency attached to the Senegalese Presidency and originally set up with World Bank support. A National Commission for Combating Malnutrition was created to monitor the CNP. Community centres involved in the CNP use local contractors to carry out certain tasks, such as monitoring malnutrition and educating beneficiaries on issues involving food and sanitation. About 130,000 infants, small children and pregnant women are presently benefiting from the community nutrition centres. Supplementary food based on local commodities is provided over six months to pregnant and lactating women, and to children between 6 and 36 months of age, through a network of 175 operational centres in 15 towns. The progress and impact of the CNP need to be fully monitored and adequately assessed so that information is available to develop broader national-regional applications and to target and deliver them effectively. Assessment of the cost effectiveness and quality of the supplementation programme and its impact in terms of malnutrition reduction is one of the major management issues addressed by AGETIP. For this purpose, the Agency's assistance was sought to apply isotope techniques to enable precise measurements of programme benefits. A pilot study has already been launched by the Government, with Agency support, to measure breast milk intake and body composition in 200 mother-infant pairs. Results of these evaluations will be used to determine the optimal timing of supplementation during pregnancy, and will provide information on the adequacy of the composition of the supplement. Isotopic methods will be used to measure breast milk intake, nutrient transfer, and maternal and infant body composition to show how the timing of the supplement provision and other aspects of programme management influence outcomes. AGETIP is responsible for field execution of the CNP and will co-ordinate the implementation of Agency supported project activities at the national level. The Laboratoire de Nutrition at the Université Cheikh Anta Diop (UCAD), Dakar, is responsible for the isotope evaluations of the nutrition component of the programme, which forms part of its MSc course in nutrition. The MSc programme will have regional implications for implementing other TC projects.

PROJECT PLAN: PHASE I: A pilot study will be conducted in August 1998 under Reserve Fund project SEN/7/002. This study will be done on 10 lactating women and their infants, and aims at optimizing the isotope method for measuring breast milk intake under field conditions. In addition, staff will be trained through an expert mission and two fellowships. After this phase of the project, the counterpart will be able to: 1) use the deuterium dilution method to measure breast milk intake under field conditions; 2) analyse the samples using Fourier transformed infrared (FTIR) spectroscopy. PHASE II: Main evaluation of the CNP. The principal study will cover 200 women, recruited during pregnancy, who will receive food supplements for at least six months. These women live in poor residential zones around Dakar. Pregnant women joining the CNP will receive supplementation from the 6th, 7th, or 8th month of pregnancy so that there are three subgroups of mothers. Infant growth will be monitored, and body composition of mothers and children, and milk production, will be measured at the end of the third month of lactation, irrespective of the date of entry into the supplementation programme. Results of this evaluation will indicate the optimum time to enter the CNP, and the adequacy of the composition of the supplement. The evaluation of the CNP will be co-ordinated by UCAD, and will include sample collection, sample analysis, and data interpretation. The evaluation should be completed by the middle of 2000, and results are expected to be presented at a workshop in November 2000, in which AGEPTIP, the Agency and the Nutrition Laboratory of UCAD will participate. The results will serve as the basis for recommendations to optimize the CNP.

NATIONAL COMMITMENT: The Government contribution to the CNP is \$1.6 million. AGEPTIP is responsible for field co-ordination (\$100,000), and will support the project implementation. The UCAD laboratory will provide staff, laboratory facilities, a vehicle and an operational budget.

AGENCY INPUT: Expert services in stable isotope techniques for measuring body composition and breast milk intake; an FTIR spectrometer for deuterium analysis; an atomic absorption spectrometer for measuring micronutrients in breast milk; training in using the isotope techniques.

PROJECT IMPACT: Results of the evaluations will be used to determine when supplementation during pregnancy should be introduced in order to obtain optimum milk output and infant growth. This could have considerable cost implications. On the basis of the accumulated data on the composition of breast milk, it can be decided whether it would be advisable to change the composition of the supplement, especially with regard to micronutrients.